WHAT IS CLAIMED IS:

1. An isolated polynucleotide selected from the group consisting of:

(a) an isolated polynucleotide encoding a human G-protein coupled receptor, or functional fragment thereof, comprising the amino acid sequence as set forth in SEQ ID NO:2;

(b) An isolated composition comprising the polynucleotide according to (a).

(c) An isolated polynucleotide comprising SEQ ID NO:1;

(d) An isolated polynucleotide having the nucleic acid sequence of ATCC Accession No. PTA-2966;

(e) An isolated polynucleotide having the nucleic acid sequence according to nucleotides 4 to 1524 of SEQ ID NO:1, wherein said nucleotides encode a polypeptide of SEQ ID NO:2 minus the start codon;

(f) An isolated polynucleotide having the nucleic acid sequence according to nucleotides 1 to 1524 of SEQ ID NO:1, wherein said nucleotides encode a polypeptide of SEQ ID NO:2 including the start codon;

(g) A polynucleotide which is fully complementary to the polynucleotide according to (a) thru (f); and

(h) A hybridization probe comprising the polynucleotide according to (a) thru (g).

2. An expression vector containing the polynucleotide according to claim 1.

3. A host cell containing the expression vector according to claim 2.

4. A substantially purified G-protein coupled receptor polypeptide selected from the group consisting of:

(a) A substantially purified G-protein coupled receptor polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:2.

(b) The polypeptide according to (a), wherein the amino acid sequence differs from SEQ ID NO:2 only by conservative substitutions;

(c) An isolated and substantially purified G-protein coupled receptor polypeptide encoded by the nucleic acid sequence of ATCC Accession No. PTA-2966;

(d) An isolated polypeptide having the amino acid sequence according to amino acids 2 to 508 of SEQ ID NO:2, wherein said amino acid encode a polypeptide of SEQ ID NO:2 minus the start methionine;

(e) An isolated polypeptide having the amino acid sequence according to amino acids 1 to 508 of SEQ ID NO:2, wherein said amino acid encode a polypeptide of SEQ ID NO:2 including the start methionine;

(f) A substantially purified fragment of the G-protein coupled receptor polypeptide according to any one of (a) to (e).

5. A substantially purified fusion protein comprising an amino acid sequence as set forth in SEQ ID NO:2 and an amino acid sequence of an Fc portion of a human immunoglobulin protein.

6. A pharmaceutical composition comprising the polypeptide, or a functional fragment thereof, according to claim 1, and a pharmaceutically acceptable diluent or excipient.

7. A purified antibody which binds specifically to the polypeptide according to claim 4, or an antigenic epitope thereof.

8. A method of screening a library of molecules or compounds with a polynucleotide to identify at least one molecule or compound therein which specifically binds to the polynucleotide sequence, comprising:

(a) combining the polynucleotide according to claim 1, with a library of molecules or compounds under conditions to allow specific binding; and

(b) detecting specific binding, thereby identifying a molecule or compound, which specifically binds to a G-protein coupled receptor-encoding polynucleotide sequence.

9. The method according to claim 8, wherein the candidate compounds are small molecules, therapeutics, biological agents, or drugs.

10. A method of screening for candidate compounds capable of modulating activity of a G-protein coupled receptor-encoding polypeptide, comprising:

(a) contacting a test compound with a cell or tissue expressing the polypeptide according to claim 4; and

(b) selecting as candidate modulating compounds those test compounds that modulate activity of the G-protein coupled receptor polypeptide.

11. A method of treating a neurological disorder in a mammal comprising administration of the G-protein coupled receptor polypeptide or homologue according to any one of claims 1, 4, or 5 in an amount effective to treat the neurological disorder.

12. A substantially purified G-protein coupled receptor polypeptide consisting of an amino acid sequence as set forth in SEQ ID NO:2.

13. The polypeptide according to claim 12, wherein the amino acid sequence differs from SEQ ID NO:2 only by conservative substitutions.

14. An isolated and purified polynucleotide encoding a human G-protein coupled receptor, or functional fragment thereof, consisting of the amino acid sequence as set forth in SEQ ID NO:2.

15. A method of treating a disease, disorder, or condition related to the brain comprising administering the G-protein coupled receptor polypeptide or homologue according to claim 12 or 13 in an amount effective to treat the brain-related disorder.

16. The polypeptide of claim 12 or 13, further comprising the polypeptide expressed in the caudate nucleus, substantia nigra, thalamus, amygdala, hippocampus, cerebellum, and corpus collosum.

17. A cell comprising NFAT/CRE and the polypeptide of claim 12 or 13.

18. A cell comprising NFAT G alpha 15 and the polypeptide of claim 12 or 13.

19. A method of screening for candidate compounds capable of modulating activity of a G-protein coupled receptor-encoding polypeptide, comprising:

(a) contacting a test compound with a cell or tissue expressing the polypeptide according to claim 12 or 13; and

(b) selecting as candidate modulating compounds those test compounds that modulate activity of the G-protein coupled receptor polypeptide.

20. The method according to claim 19, wherein the candidate compounds are agonists or antagonists of G-protein coupled receptor activity.

21. The method according to claim 20, wherein the polypeptide activity is associated with the brain.

22. The method according to claim 20, ~~wherein~~ the candidate modulating compounds are peptides.

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